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A Comparison Between Current Land Readjustment Implementations In Turkey and Value-Based Approach

YILMAZER Seçkin and ŞAŞKIN Önder , Turkey

EMBRACING OUR SMART WORLD WHERE THE CONTINENTS CONNECT:
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OUTLINE

1. CURRENT LAW OF LAND RE-ADJUSTMENT IMPLEMENTATION

2. AWARENESS OF VALUE BASED RE-ADJ. IMPLEMENTATIONS

3. EVOLUTION OF A PARCEL'S VALUE IN TURKEY

4. MODEL IMPLEMENTATION

5. COMPORISON WITH AREA-BASED AND VALUE-BASED IMP.

6. CONCLUSION

1. CURRENT LAND READJUSTMENT LAW

Development Readjustment Share DRS & DOP ???

In return to the value increments related with the readjustment (zoning) implementation, a deduction up to 40% **(Same Rate) DRS & DOP) of the cadastral parcel area** is currently being cut in order to be used for the common usage areas like roads, green areas, primary schools or for ...



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2. AWARENESS OF VALUE BASED READJUSTMENT IMPLEMENTATIONS

10th Development Plan of Turkish Government 2014- 2018

In Article 949 - It is stated that;

- ▶ *“Value increases resulted by development plans and their revisions will be assessed by objective valuation criteria and the public will be ensured to **benefit** more from this increase to provide for basic social infrastructure and spaces of common use.”*



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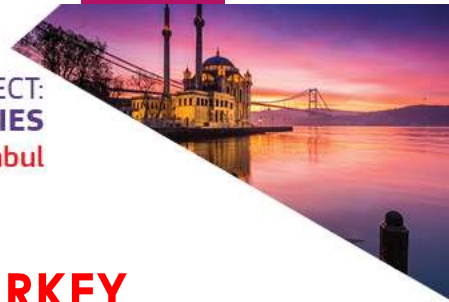


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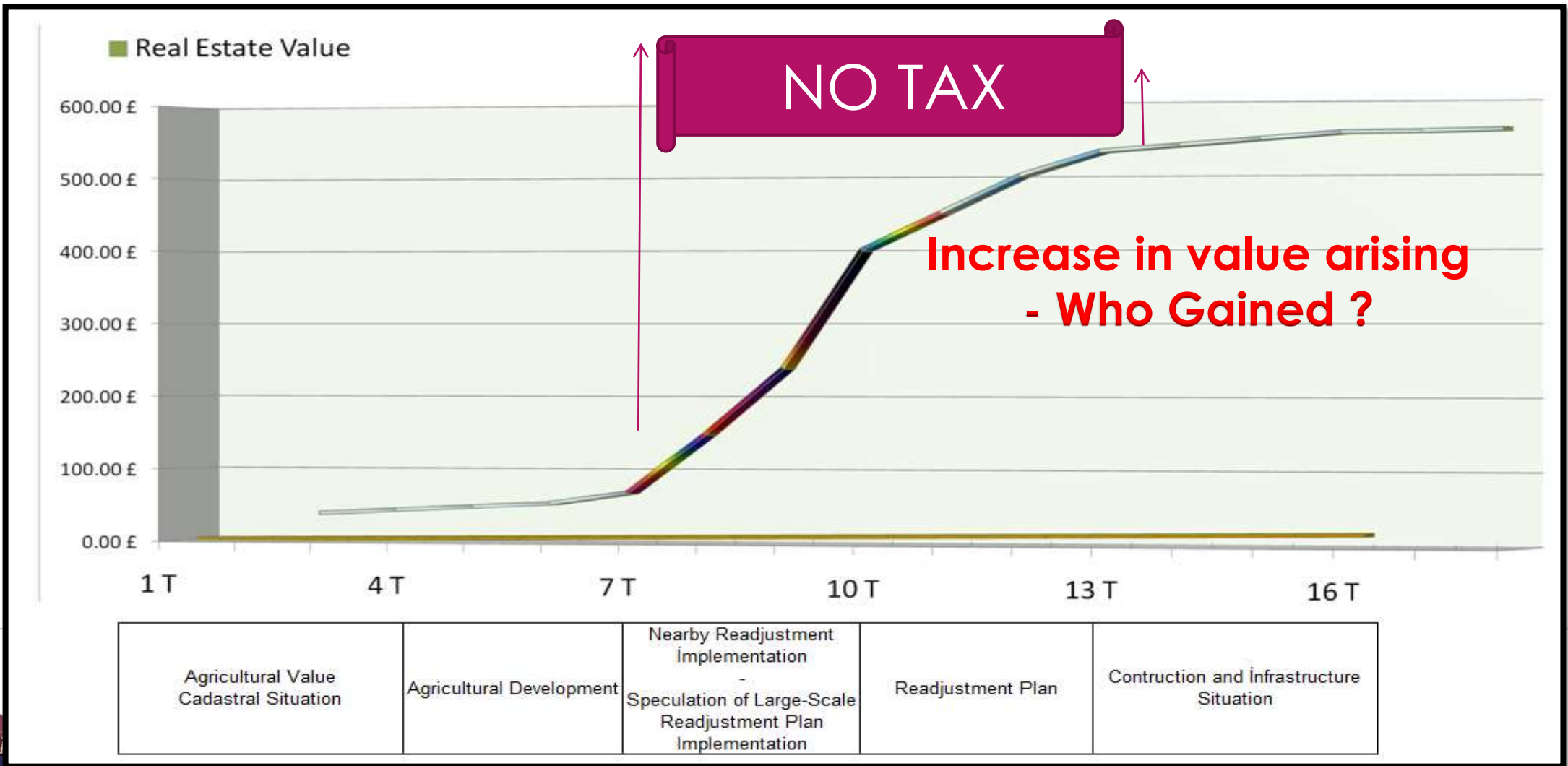
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3. EVOLUTION OF A PARCEL'S VALUE

REAL ESTATE VALUE CHANGE IN ZONING PLAN IMPLEMENTATION IN TURKEY



3. VALUE-BASED APPROACH

- ▶ DOEBLE (1986) working sheet has been used in the Kahramankazan County **in order to determine the variables** that can affect the real estate values,
- ▶ Topography
- ▶ Location in Plan Area
- ▶ Existing Usages
- ▶ Suitable Area Rate,
- ▶ Public Funding
- ▶ Environment
- ▶ Quality Of Agricultural Sources
- ▶ Scene - Review
- ▶ Far From Natural and Technical Infrastructure
- ▶ Sound Power
- ▶ Far From Hazardous Area
- ▶ Permitted Construction Rate
- ▶ Location In Block
- ▶ Roads Around the parcel(DOEBLE 1986)

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4. MODEL IMPLEMENTATION

4.1 Location of Case Study

After the 1970's ,the Saray Neighborhood which was included in our model implementation area, industrial facilities were started to be established , especially these facilities were concentrated around Istanbul road (D750- MOTORWAY).



Ankara-Kahramankazan



Kahramankazan-Saray

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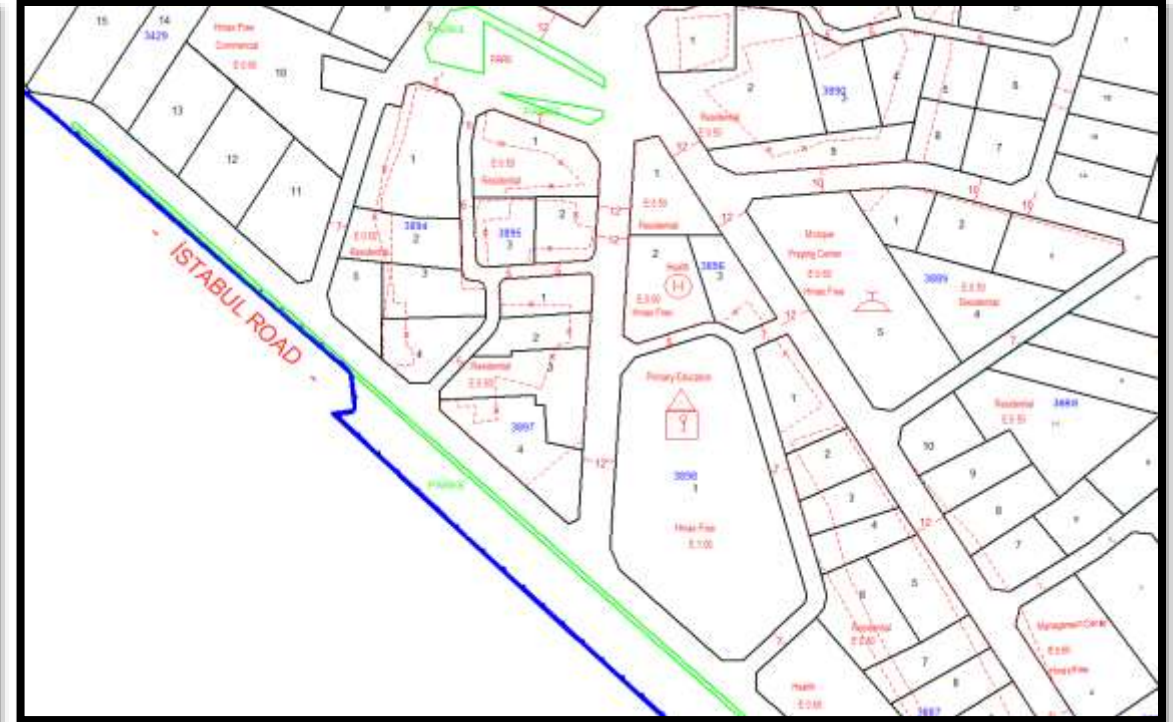




Zoning Plan and Implementation Area



Readjustment Plan



Superposition - Overlaying The Common Base

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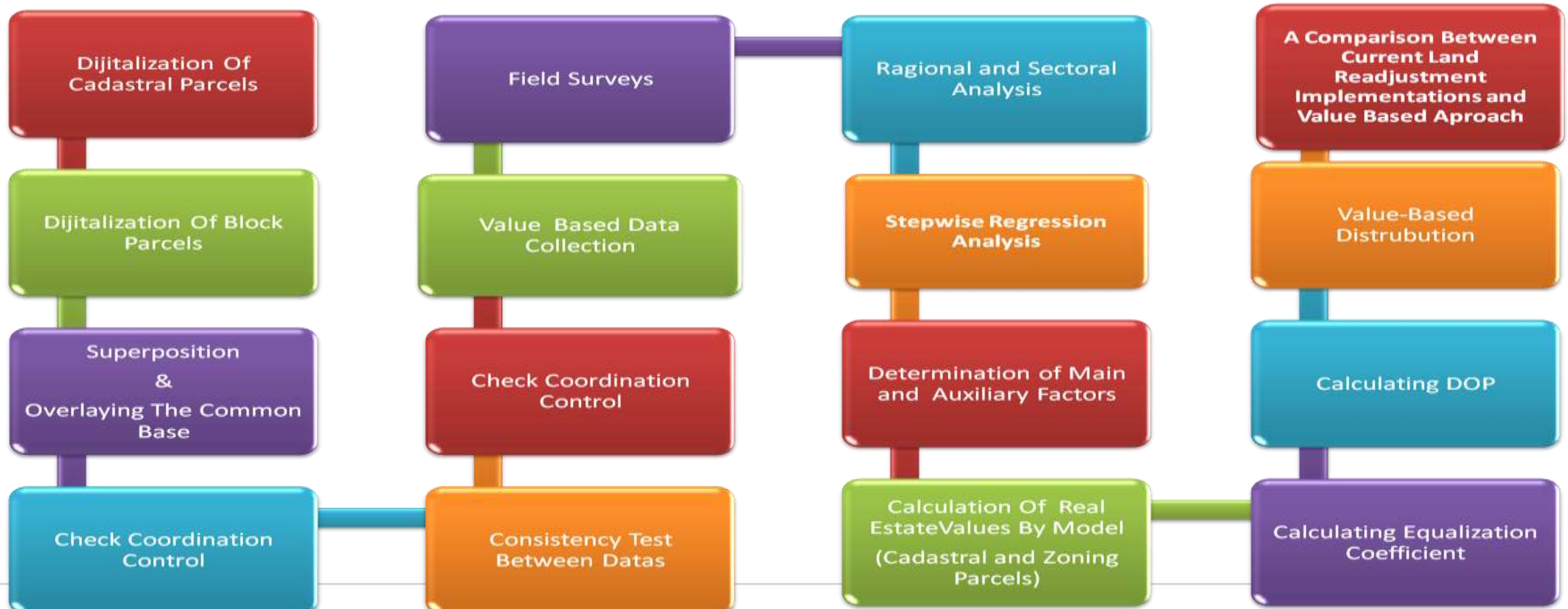


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Implementation Process



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4.2 Regional, Sectoral Analysis & Surveys

- ▶ Before Re-adjustment implementations, in order to calculate and / or estimate the values of the parcels closest to the market value, the **variables should be determined by considering the market conditions.**

SURVEY

SORU 1: Herhangi bir arazinizden uygulama imar planı geçti mi?

- a)Evet
- b)Hayır
- c) Bilgim yok

SORU 2: İmar planı kesinleşmeden önce araziniz üzerinde tarımsal faaliyette bulunuyor muydunuz?

- a)Evet
- b)Hayır
- c) Bilgim yok

SORU 3: İmar çalışmaları devam ederken veya öncesinde tarafınıza yeterli bilgilendirme yapıldı mı?

-Evet-



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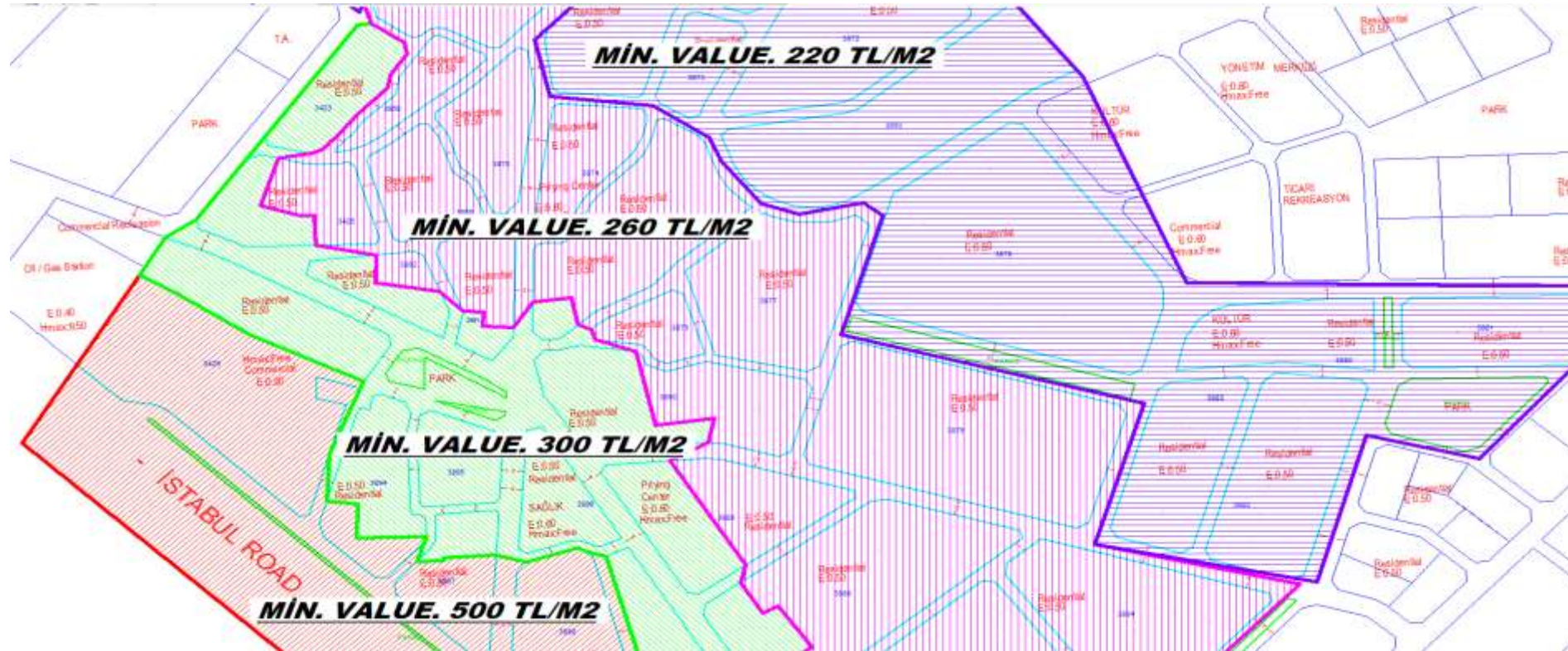


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4.3 Preliminary Studies



Preliminary - Draft Property Value Map

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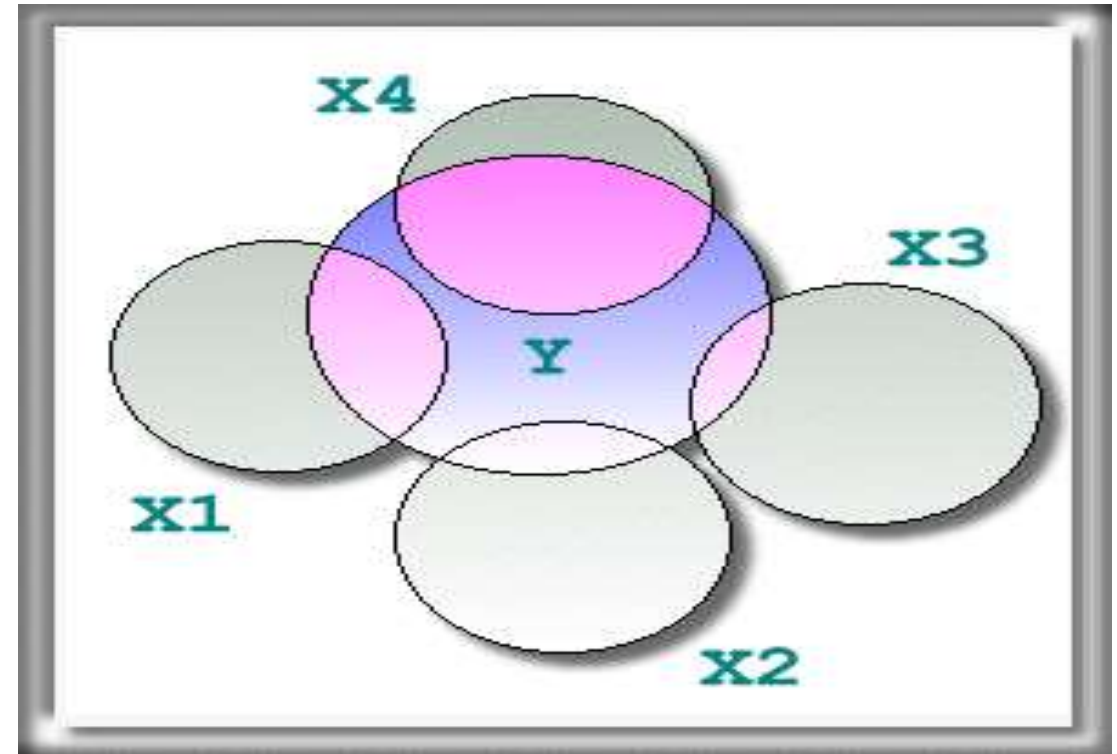




Determination of Parameters

- ▶ Analytic Hierarchy Process,
- ▶ Multiple Regression Analysis,
- ▶ Artificial Neural Networks,
- ▶ Decision Tree Model
- ▶ Linear Programming
- ▶ ...

have been used to determine parameters.



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MODEL BUILDING PHASE

After making market analysis, variables which may effect parcel values are taken into consideration.

- ▶ Development Rights
- ▶ Location in Block
- ▶ Topography
- ▶ Roads Around the parcel
- ▶ Environment
- ▶ Regional Crime Rate
- ▶ Permitted Construction Rate
- ▶ Far From Public Services
- ▶ Far From Natural and Technical Infrastructure

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Correlation Analysis PRE-ANALYSIS

Because of the high correlation between Distance to Social Places and Distance To Istanbul Road, DSP is omitted.

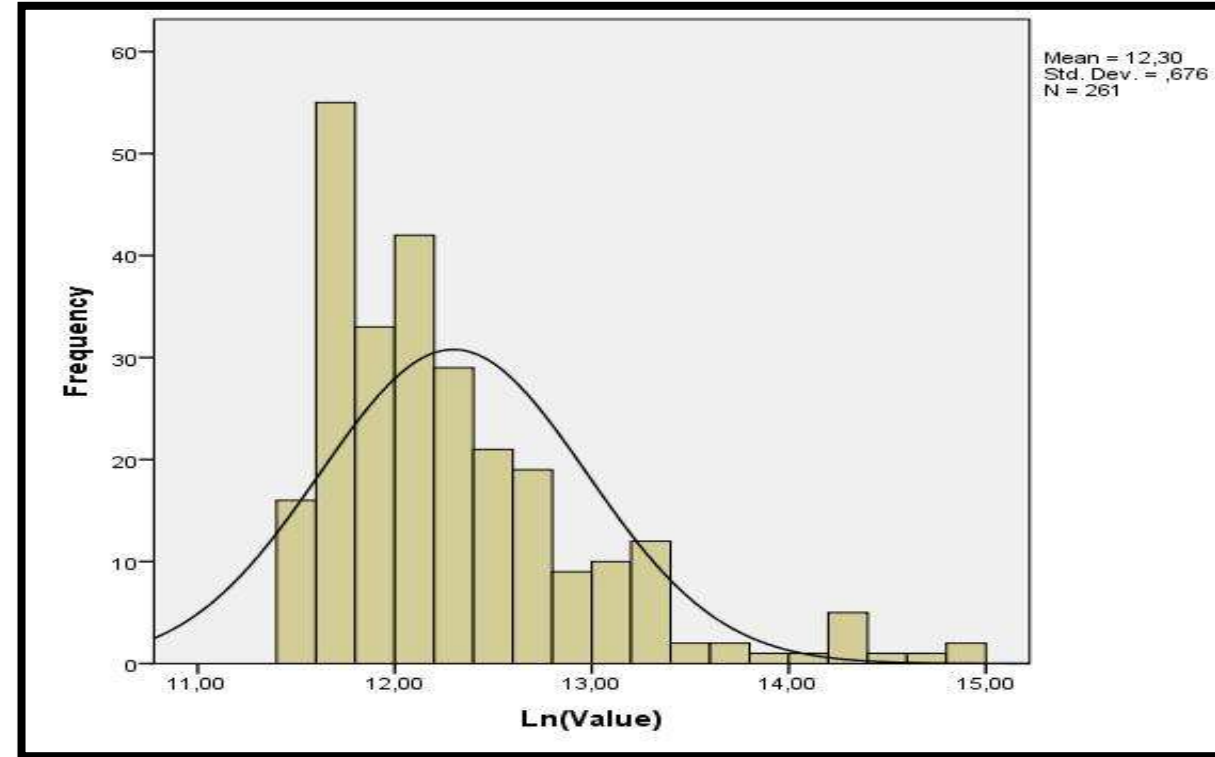
(Cor - Rate - 99,4%),

		Parcel Floor Area	Distance to Istanbul Road (D750)	Construction Type	Total Permitted Construction Area	Location of Parcel in the Block	Distance to Social Places
Parcel Floor Area	Pearson Correlation	1	-,115	,313**	,996**	,111	-,112
	Sig. (2-tailed)		,063	,000	,000	,073	,070
	N	261	261	261	261	261	261
Distance to Istanbul Road (D750)	Pearson Correlation	-,115	1	-,143*	-,122*	-,174**	,994**
	Sig. (2-tailed)	,063		,021	,049	,005	,000
	N	261	261	261	261	261	261
Construction Type	Pearson Correlation	,313**	-,143*	1	,367**	,074	-,148
	Sig. (2-tailed)	,000	,021		,000	,231	,017
	N	261	261	261	261	261	261
Total Permitted Construction Area	Pearson Correlation	,996**	-,122*	,367**	1	,118	-,119
	Sig. (2-tailed)	,000	,049	,000		,057	,054
	N	261	261	261	261	261	261
Location of Parcel in the Block	Pearson Correlation	,111	-,174**	,074	,118	1	-,182**
	Sig. (2-tailed)	,073	,005	,231	,057		,003
	N	261	261	261	261	261	261
Distance to Social Places	Pearson Correlation	-,112	,994**	-,148*	-,119	-,182**	1
	Sig. (2-tailed)	,070	,000	,017	,054	,003	
	N	261	261	261	261	261	261
Topographic Shape	Pearson Correlation	-,089	,449**	-,075	-,091	,029	,409**
	Sig. (2-tailed)	,150	,000	,229	,141	,636	,000
	N	261	261	261	261	261	261
Value	Pearson Correlation	,540**	-,520**	,307**	,538**	,193**	-,526**
	Sig. (2-tailed)	,000	,000	,000	,000	,002	,000
	N	261	261	261	261	261	261



PRE-ANALYSIS

- ▶ ~~Total Flor Area~~
- ▶ ~~Flor Area Range~~
- ▶ Distance To İstanbul Road
- ▶ Total Permitted Contruction Area
- ▶ Location of Parcel in the Block
- ▶ Topographic Shape
- ▶ Construction Type
- ▶ ~~Distance to Social Places~~
- ▶ **Value**



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STEPWISE REGRESSION ANALYSIS

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,707 ^a	,499	,497	,47951	
2	,897 ^b	,804	,803	,30033	
3	,900 ^c	,810	,807	,29677	1,559

a. Predictors: (Constant), Total Permitted Construction Area

b. Predictors: (Constant), Total Permitted Construction Area, Distance to Istanbul Road (D750)

c. Predictors: (Constant), Total Permitted Construction Area, Distance to Istanbul Road (D750), Location of Parcel in the Block

d. Dependent Variable: Ln(Value)

$$\text{Ln}(V) = 12,321986 + 0.001563 * \text{TPCA} - 0,002359 * \text{DIR} + 0.199062 * \text{LP}$$

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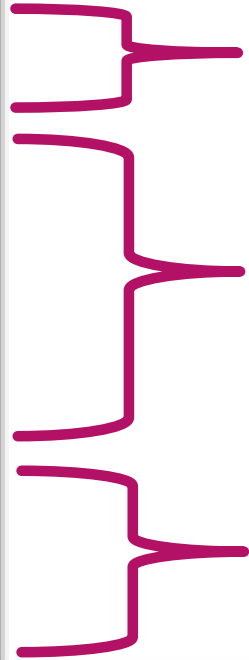




VALUE BASED ALLOCATION

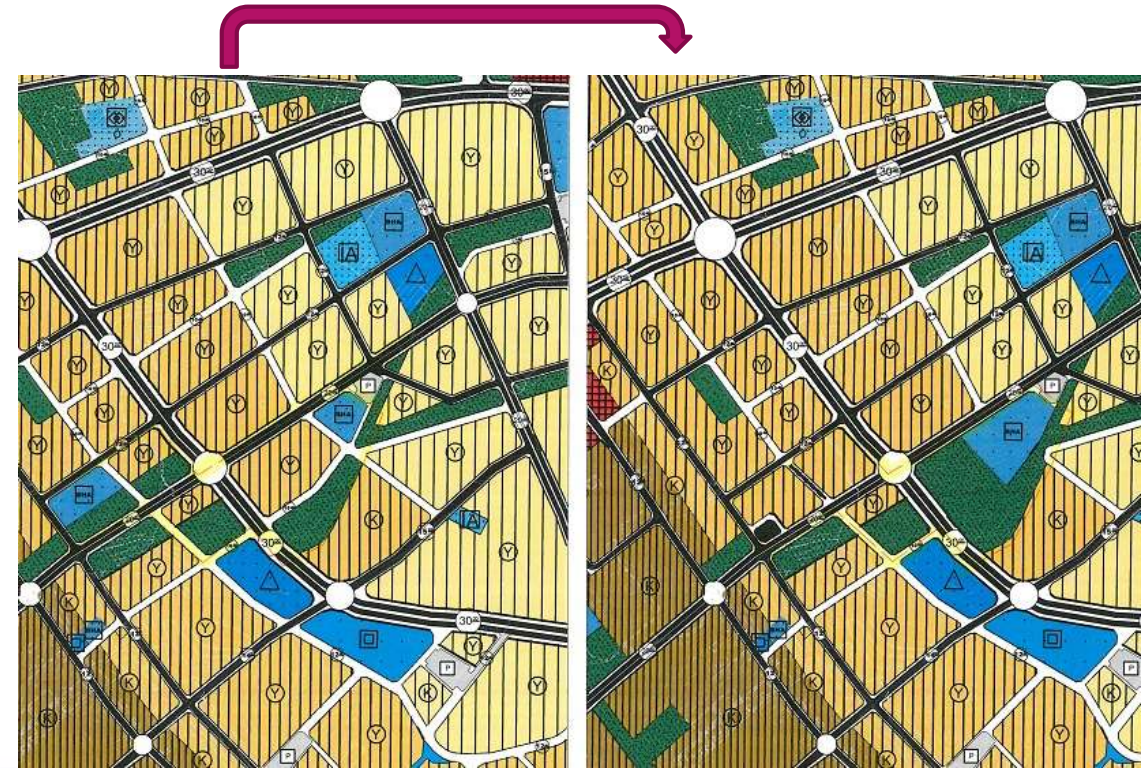
Cadastre

0 / 8 4 0
9 0 0 6
0 / 8 3 9
0 / 8 4 3
9 0 0 3
9 0 0 6
9 0 1 3
0 / 8 3 9
0 / 8 3 9
0 / 8 3 9
9 0 0 6



Block

3 8 9 4 / 1
3 8 9 4 / 1
3 8 9 4 / 2
3 8 9 4 / 2
3 8 9 4 / 2
3 8 9 4 / 2
3 8 9 4 / 2
3 8 9 4 / 2
3 8 9 4 / 3
3 8 9 4 / 3
3 8 9 4 / 3
3 8 9 4 / 3



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CONCLUSION – COMPORISON TABLES

Parcel Number	Area (M2)	VALUE S*V	Mean Value TL/ M ² $\Sigma S.V / \Sigma S$	FIXED VALUE S.MV	DIFFERENCE
3423/4	641.00	192,299.21 TL	359.89 TL	230,686.92 TL	-38,387.71 TL
3423/7	621.00	186,300.08 TL	359.89 TL	223,490.21 TL	-37,190.13 TL
3425/10	534.00	138,839.32 TL	359.89 TL	192,178.96 TL	-53,339.64 TL
3429/10	2,274.13	2,728,956.05 TL	359.89 TL	818,430.89 TL	1,910,525.16 TL
3429/11	1,178.22	1,767,323.37 TL	359.89 TL	424,025.02 TL	1,343,298.35 TL



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6-11 May 2018, İstanbul



Thank you for your attention...

Önder Şaşkın

Seçkin Yılmaz

► E-mail: onder3324@tkgm.gov.tr

► Email: seckinyilmazer@tkgm.gov.tr

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